



COLLEGE OF HEALTH, AGRICULTURE & NATURAL SCIENCES

NAAS 406: ANIMAL BREEDING

END OF FIRST SEMESTER FINAL EXAMINATIONS

NOVEMBER/DECEMBER 2022

LECTURER: MR. P. B. MUVHURINGI

DURATION: 3 HOURS

Instruction

Answer one question. Each question carries 100 marks

Question 1

- a. Compare and contrast
 - i. Dihybrid cross and Monohybrid cross [4]
 - ii. single cross and backcross [20]
- b. List four branches of genetics [8]
- c. What are the merits and demerits of the following
 - i. Multiple ovulation and embryo transfer (MOET) [20]
 - ii. Artificial insemination (AI) [20]
 - iii. Embryo sexing [20]
- d. Discuss the genetic improvement programmes that are currently being run in Zimbabwe [8]

Question 2

- a. Write short notes on the following
 - i. Performance testing [10]
 - ii. Progeny testing [10]
 - iii. Pedigree testing [10]
 - iv. Sib testing [10]
 - v. Tandem selection [10]
 - vi. Independent culling levels [10]
- b. What are the advantages and disadvantages of artificial insemination? [20]
- c. Compare and contrast pure breeding and crossbreeding [20]

Question 3

- a. What are the merits and demerits of cross breeding [20]
- b. In shorthorn cattle, three coat colours are red, roan and white. In a sample of 1000 Shorthorns, assume the number of animals with each coat colour is as follows

Colour	Genotype	Number
Red	RR	nRR = 360
Roan	Rr	nRr = 480
White	rr	nrr = 160
Total		N =1000

Calculate

- i. The genotype frequencies [10]
- ii. The gene frequencies [10]
- c. Compare and contrast the following
 - i. Performance testing and Progeny testing [20]
 - ii. Pedigree testing and Sib testing [20]
 - iii. Tandem selection and Independent culling levels [20]

END OF EXAMINATION PAPER